

Trend Study 8B-12-00

Study site name: Big Meadow.

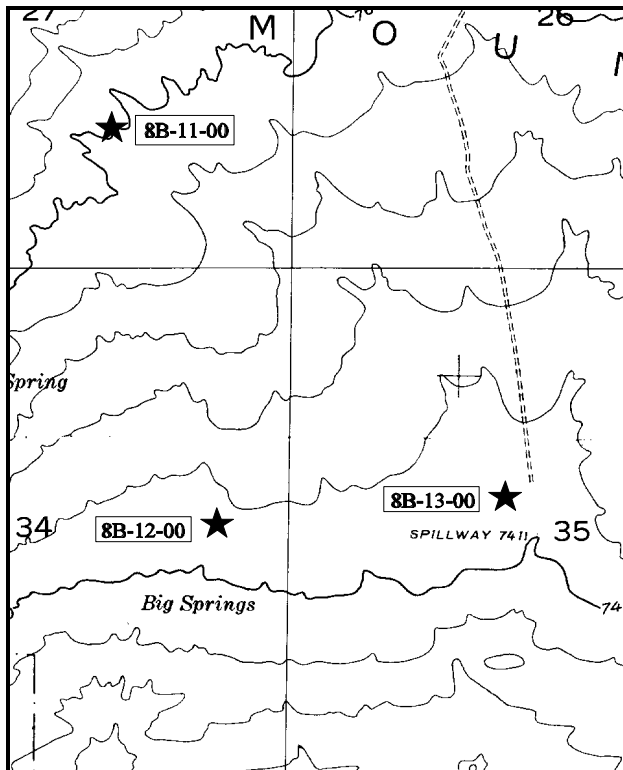
Range type: Wet Meadow.

Compass bearing: frequency baseline 322°M.

First frame placement on frequency belts 5 feet. Frequency belt placement; line 1 (11ft), line 2 (34ft), line 3 (59ft), line 4 (71ft), line 5 (95ft).

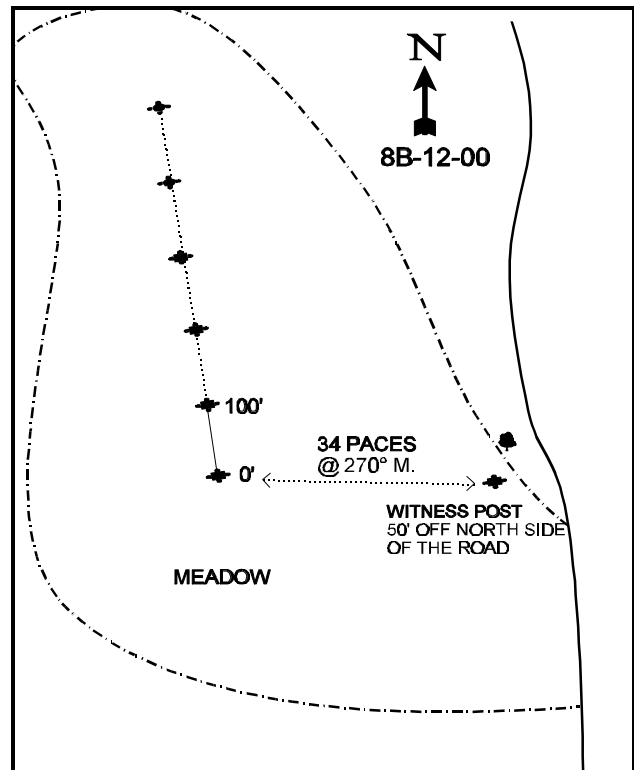
LOCATION DESCRIPTION

From Dutch John, proceed north towards Antelope Flat on Highway U.S. 191 for approximately 8 miles. Before the Wyoming border, turn east on the Antelope Flat Road towards Goslin Mountain. Go 2.8 miles and turn right towards Goslin Mountain. Bear right and drive 1.3 miles to a gate. Continue 4.5 miles to a fork. Bear right and proceed 0.8 miles passing study 8B-10-00 to a four-way intersection. Continue straight west and drive 0.4 miles to a witness post. The witness post is located 50 feet off the north side of the road. From the witness post walk 34 paces at 270°M. to the 0-foot baseline stake.



Map Name: Goslin Mtn.

Township 3N, Range 23E, Section 34



Diagrammatic Sketch

UTM 4534888.557 N, 643005.736 E

DISCUSSION

Trend Study No. 8B-12 (9-23)

The Big Meadow trend study is a another new study set up in the Goslin Mountain area to monitor concentrated use areas by wildlife and livestock on small meadows. This meadow is about one half of a mile south of site #11, just north of Big Springs at an elevation of 7,500 feet. The transect was placed on the north edge of the meadow. Slope is more gradual here than at site #11 resulting in wetter conditions. Drainage is to the east, south-east.

The soil is deep with an effective rooting depth >35 inches. There are no rocks on the surface or within the profile. Soil texture is a clay loam with a mildly alkaline soil reaction (pH of 7.4). Phosphorus is limited at only 5.5 ppm where values less than 10 ppm can limit normal plant growth and development. Vegetation and litter cover are abundant and prohibit any erosion. Water is found on the surface of the meadow until sometime in June or July depending on weather conditions. During study establishment, July 7th 1995, the ground was mostly dry although the water table appeared to be just under the surface in most places. Further to the south the meadow becomes increasingly wet with some shallow accumulations of water visible. Due to the wet conditions, deep hoof action by cattle has caused the surface to be uneven in places. There is no erosion occurring due to the abundant herbaceous cover.

Grasses and forbs are diverse and abundant on this site, however species composition could be better. In 1995, nearly 80% of the grass cover came from Baltic rush and Kentucky bluegrass. This increased to 95% by 2000. Both of these species are considered increasers under grazing pressure. The more desirable Nebraska sedge, tufted hair-grass, and slender wheatgrass made up only 13% of the grass cover in 1995 and 25% in 2000.

Dominant forbs include yarrow, Pacific aster, thistle, cinquefoil, balsam groundsel and dandelion. Many of these species are low growing increasers which establish under heavy grazing pressure. Increaser forbs made up 76% of the forb cover in 1995 and 66% in 2000.

1995 APPARENT TREND ASSESSMENT

Soil trend is considered stable due to the almost imperceptible slope and excellent vegetation and litter cover. No shrubs occur on the site so there is no data available for a browse trend. Composition of the herbaceous understory is diverse, but dominated by less desirable increaser species. The increaser grass-like and grass species are Baltic rush and Kentucky bluegrass. Forbs are diverse but are also dominated by low growing increasers. Dandelion is the most numerous forb with a quadrat frequency of 96%. Although this forb is found in many natural undisturbed communities, high densities are a good indication of overgrazing.

2000 TREND ASSESSMENT

Trend for soil is stable with abundant and well dispersed herbaceous cover and very little bare ground exposed. There are no shrubs on the site so there is no browse trend. Trend for the herbaceous understory is considered down slightly. Sum of nested frequency of perennial grasses has declined slightly with a significant decline in the frequency of Kentucky bluegrass, tufted hair-grass, Carex and slender wheatgrass. The key forage species, Nebraska sedge, increased significantly in frequency and cover rose from 3% in 1995 to 14% in 2000. However, the poor value increaser, Baltic rush, also increased significantly in nested frequency and cover doubled. It now provides 58% of the grass cover. Sum of nested frequency of perennial forbs declined by 56% with some of the most abundant species low valued increasers. The dominant species include: horsetail, cinquefoil, dandelion and hook violet.

TREND ASSESSMENT

soil - stable (3)

browse - no browse on site (NA)

herbaceous understory - down slightly (2) especially for forbs

HERBACEOUS TRENDS --

Herd unit 08B, Study no: 12

T y p e	Species	Nested Frequency		Quadrat Frequency		Average Cover %	
		'95	'00	'95	'00	'95	'00
G	Agropyron trachycaulum	89	*29	30	11	.74	.15
G	Carex nebraskensis	233	*303	78	89	2.76	14.13
G	Carex spp.	146	*39	39	13	2.86	1.39
G	Deschampsia caespitosa	88	*47	30	18	1.85	.76
G	Hordeum brachyantherum	9	*31	3	12	.01	.31
G	Juncus balticus	410	*444	94	96	16.51	34.60
G	Muhlenbergia richardsonis	16	1	5	1	.07	.00
G	Phleum pratense	-	2	-	1	-	.03
G	Poa pratensis	440	*223	95	67	16.20	8.55
Total for Annual Grasses		0	0	0	0	0	0
Total for Perennial Grasses		1431	1119	374	308	41.02	59.94
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F	Achillea millefolium	48	*8	14	5	1.43	.10
F	Agoseris glauca	10	3	4	1	.05	.00
F	Antennaria rosea	26	*3	10	2	.91	.03
F	Arabis spp.	3	-	1	-	.00	-
F	Astragalus agrestis	37	*-	11	-	.08	-
F	Aster chilensis	146	*35	48	12	3.13	.91
F	Aster spp.	36	*-	11	-	.59	-
F	Cirsium spp.	95	*-	38	-	1.53	-
F	Equisetum spp.	72	*90	24	27	.33	1.66
F	Erigeron spp.	3	5	1	1	.00	.00
F	Myosotis alpestris	13	*52	4	19	.04	.77
F	Potentilla anersina	200	199	68	78	3.85	5.14
F	Potentilla gracilis	69	*25	32	11	1.56	.44
F	Ranunculus testiculatus (a)	11	*-	3	-	.18	-
F	Senecio pauperculus	97	*-	25	-	2.75	-
F	Sisyrinchium spp.	104	*-	39	-	1.24	-
F	Stellaria longipes	5	-	2	-	.01	.00
F	Taraxacum officinale	316	*30	96	15	8.56	.78
F	Viola adunca	124	171	39	59	2.32	3.75

Type	Species	Nested Frequency		Quadrat Frequency		Average Cover %	
		'95	'00	'95	'00	'95	'00
	Total for Annual Forbs	11	0	3	0	0.18	0
	Total for Perennial Forbs	1404	621	467	230	28.44	13.61
	Total for Forbs	1415	621	470	230	28.63	13.61

* Indicates significant difference at % = 0.10

BASIC COVER --

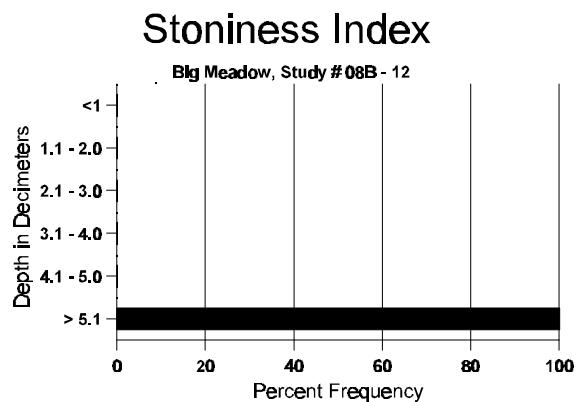
Herd unit 08B, Study no: 12

Cover Type	Nested Frequency		Average Cover %	
	'95	'00	'95	'00
Vegetation	499	492	69.33	70.35
Litter	499	497	76.84	86.00
Cryptogams	83	56	5.28	4.85
Bare Ground	-	8	0	.18

SOIL ANALYSIS DATA --

Herd Unit 8B, Study # 12, Study Name: Big Meadow

Effective rooting depth (inches)	Temp °F (depth)	pH	%sand	%silt	%clay	%OM	PPM P	PPM K	dS/m
35.43	50.0 (18.11)	7.4	34.0	33.7	32.3	6.1	5.5	256.0	1.2



PELLET GROUP FREQUENCY --

Herd unit 08B, Study no: 12

Type	Quadrat Frequency	
	'95	'00
Elk	-	1
Deer	-	1
Cattle	21	2

Pellet Transect	
Pellet Groups per Acre 00	Days Use per Acre (ha) 00
-	-
-	-
131	11 (27)